



SEQUENCE LISTING

<110> Khan, Nisar A.  
Benner, Robert

<120> Gene regulator

<130> 2183-5223US

<140> 10/028,075

<141> 2001-12-21

<150> EP 01203748.7

<151> 2001-10-04

<160> 176

<170> PatentIn Ver. 2.1

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Leu Gln Gly Val

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Ala Gln Gly Val

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Val Leu Pro Ala Leu Thr  
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Pro Gly Cys Pro  
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Pro Ala Val Pro  
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Leu Gln Gly Val Val Pro Arg Gly Val  
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Leu Gln Gly Ala

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Ala Leu Pro Ala Leu Pro

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<210> 24

<211> 7

<212> PRT

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<210> 25

<211> 7

<212> PRT

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Leu Ala Gly Val

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<210> 27

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<210> 28

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Val Leu Pro Ala Leu Pro Gln  
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<210> 30

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<400> 30

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<210> 31

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<400> 33  
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<210> 34  
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Gly	Cys	Pro	Arg	Gly	Val	Asn	Pro	Val	Val	Ser	Tyr	Ala	Val	Ala	Leu
			20					25					30		
Ser	Cys	Gln	Cys	Ala	Leu										
			35												

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Tyr	Cys	Pro	Thr
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Pro Ser

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<210> 42  
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<210> 43  
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<210> 44  
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signalling molecule

<400> 44  
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Cys

<210> 45  
<211> 35  
<212> PRT  
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signalling molecule

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Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu  
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Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly Tyr  
20 25 30

Cys Pro Thr  
35

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signalling molecule

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Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp  
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His Pro Leu Thr Cys  
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<210> 47

<211> 18

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signalling molecule

<400> 47

Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu  
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Thr Cys

<210> 48

<211> 37

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 48

Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro  
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Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr  
20 25 30

Pro Ile Leu Pro Gln  
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<210> 49

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signalling molecule

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represent the NF kappaB binding sequence

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<210> 53

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<210> 55  
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<210> 56  
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<210> 65  
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<210> 67  
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pdb/1SMP/1SMP I

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Leu Gln Lys Leu Leu Pro Glu Ala Pro  
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<210> 68  
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Leu Gln Pro Thr Leu  
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pdb/1BHX/1BHX F

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<210> 72  
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Pro Ala Ala Pro

1

<210> 73

<211> 5

<212> PRT

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pdb/1CQK/1CQK A

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Pro Ala Ala Pro Gln

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5

<210> 74

<211> 6

<212> PRT

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<210> 75

<211> 4

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: pdb/1BFB/1BFB

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Leu Pro Ala Leu

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<210> 76

<211> 4

<212> PRT

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<223> Description of Artificial Sequence: pdb/1BFB/1BFB

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Pro Ala Leu Pro

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<210> 77

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<212> PRT

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Pro Ala Leu Pro Glu

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<210> 78

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Leu Thr Glu Leu Leu

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<210> 79

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<212> PRT

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<223> Description of Artificial Sequence: C3G peptide

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Pro Pro Pro Ala Leu Pro Pro Lys Lys Arg

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<210> 80

<211> 4

<212> PRT

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<210> 81

<211> 4

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pdb/1RLQ/1RLQ R; swissnew/P01229/LSHB HUMAN

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<210> 82

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Leu Pro Gly Leu  
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<210> 83

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pdb/1GJS/1GJS A

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Leu Ala Ala Leu  
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<210> 84

<211> 5  
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<210> 85  
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pdb/1GBR/1GBR B

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<210> 86  
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Val Leu Pro Ser Ile Pro  
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<210> 87  
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pdb/1FZV/1FZV A

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Met Leu Pro Ala Val Pro  
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<210> 88  
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<210> 89  
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<210> 90  
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pdb/1HSS/1HSS A

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Val Pro Ala Leu Pro  
1 5

<210> 91  
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Pro Thr Ile Pro



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Val Leu Pro Thr Ile Pro  
1 5

<210> 93  
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<210> 94  
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<210> 95  
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pdb/1GER/1GER A

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Leu Pro Ala Leu Pro  
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<210> 96  
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Cys

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Cys

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<223> Description of Artificial Sequence: Mm.42246.3

<400> 101  
Lys Val Ile Gln Gly Ser Leu Asp Ser Leu Pro Gln Ala Val  
1 5 10

<210> 102  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.42246.3

<400> 102  
Leu Asp Ser Leu  
1

<210> 103  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 103  
Val Leu Gln Ala Ile Leu Pro Ser Ala Pro Gln  
1 5 10

<210> 104  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 104  
Leu Gln Ala Ile Leu  
1 5

<210> 105  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 105  
Pro Ser Ala Pro  
1

<210> 106  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 106

Lys Val Leu Gln Gly Arg Leu Pro Ala Val Ala Gln Ala Val  
1 5 10

<210> 107  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 107  
Leu Pro Ala Val  
1

<210> 108  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 108  
Leu Val Gln Lys Val Val Pro Met Leu Pro Arg Leu Leu Cys  
1 5 10

<210> 109  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 109  
Leu Pro Arg Leu  
1

<210> 110  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 110  
Pro Met Leu Pro

1

<210> 111  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.22430.1

<400> 111  
Pro Ser Ala Pro Gln  
1 5

<210> 112  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: P20155

<400> 112  
Leu Pro Gly Cys Pro Arg His Phe Asn Pro Val  
1 5 10

<210> 113  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Rn.2337.1

<400> 113  
Leu Val Gly Cys Pro Arg Asp Tyr Asp Pro Val  
1 5 10

<210> 114  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Rn.2337.1

<400> 114  
Leu Val Gly Cys  
1

<210> 115  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.297775.1

<400> 115  
Pro Gly Cys Pro Arg Gly  
1 5

<210> 116  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.1359.1

<400> 116  
Leu Pro Gly Cys Pro  
1 5

<210> 117  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/O56177/O56177

<400> 117  
Val Leu Pro Ala Ala Pro  
1 5

<210> 118  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 118  
Leu Ala Gly Thr Ile Pro Ala Thr Pro

1

5

<210> 119  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 119  
Pro Ala Thr Pro  
1

<210> 120  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9IYZ3/Q9IYZ3

<400> 120  
Gly Leu Leu Pro Cys Leu Pro  
1 5

<210> 121  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 121  
Pro Gly Ala Pro  
1

<210> 122  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5



<400> 122  
Leu Pro Gln Arg Pro Arg Gly Pro Asn Pro  
1 5 10

<210> 123  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 123  
Pro Arg Gly Pro  
1

<210> 124  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.303116.2

<400> 124  
Gly Cys Pro Arg  
1

<210> 125  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1DU3/1DU3 A

<400> 125  
Gly Cys Pro Arg Gly Met  
1 5

<210> 126  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BIO/1BIO

<400> 126  
Leu Gln His Val  
1

<210> 127  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1FL7/1FL7 B

<400> 127  
Val Pro Gly Cys  
1

<210> 128  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1HR6/1HR6 A

<400> 128  
Cys Pro Arg Gly  
1

<210> 129  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1H6/1HR6 A

<400> 129  
Leu Lys Gly Cys  
1

<210> 130  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 130

Pro Pro Gly Pro

1

<210> 131

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 131

Leu Pro Gly Cys Pro Arg Glu Val

1

5

<210> 132

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 132

Cys Pro Arg Glu

1

<210> 133

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 133

Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val

1

5

10

15

Cys

<210> 134

<211> 4

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 134  
Met Met Arg Val  
    1

<210> 135  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 135  
Val Leu Pro Pro Leu Pro  
    1                    5

<210> 136  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 136  
Val Leu Pro Pro Leu Pro Gln  
    1                    5

<210> 137  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/P01229/LSHB HUMAN

<400> 137  
Ala Val Leu Pro Pro Leu Pro  
    1                    5

<210> 138  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 138  
Ala Val Leu Pro Pro Leu Pro Gln  
1 5

<210> 139  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 139  
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Val Pro Gln Val Val  
1 5 10 15

Cys

<210> 140  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 140  
Leu Gln Ala Gly  
1

<210> 141  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:

swissnew/P07434/CGHB PAPAN

<400> 141

Val Leu Pro Pro Val Pro  
1 5

<210> 142

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 142

Val Leu Pro Pro Val Pro Gln  
1 5

<210> 143

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 143

Ala Val Leu Pro Pro Val Pro  
1 5

<210> 144

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 144

Ala Val Leu Pro Pro Val Pro Gln  
1 5

<210> 145

<211> 4

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/Q28376/TSHB HORSE

<400> 145  
Met Thr Arg Asp  
    1

<210> 146  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/Q28376/TSHB HORSE

<400> 146  
Gln Asp Val Cys  
    1

<210> 147  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    swissnew/Q28376/TSHB HORSE

<400> 147  
Ile Pro Gly Cys  
    1

<210> 148  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
    sptrembl/Q9Z284/Q9Z284

<400> 148  
Pro Ala Leu Pro Ser  
    1                    5

<210> 149

<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 149  
Leu Pro Gly Gly Pro Arg  
1 5

<210> 150  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 150  
Leu Pro Gly Gly  
1

<210> 151  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 151  
Gly Gly Pro Arg  
1

<210> 152  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 152  
Leu Gln Arg Gly  
1



<210> 153  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 153  
Leu Gln Arg Gly Val  
1 5

<210> 154  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 154  
Leu Gly Gln Leu  
1

<210> 155  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SignalP (CBS)

<400> 155  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro  
1 5 10

<210> 156  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 156  
Val Leu Gln Gly Val Leu Pro Ala Leu  
1 5

<210> 157  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 157  
Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5

<210> 158  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 158  
Val Leu Pro Ala Leu Pro Gln Val Val  
1 5

<210> 159  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 159  
Arg Leu Pro Gly Cys Pro Arg Gly Val  
1 5

<210> 160  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 160  
Thr Met Thr Arg Val Leu Gln Gly Val

1

5

<210> 161

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MHC II (H2 Ak  
15 mers)

<400> 161

Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu  
1 5 10 15

<210> 162

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MHC II (H2 Ak  
15 mers)

<400> 162

Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val  
1 5 10 15

<210> 163

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA DRB1\*0101  
15 mers

<400> 163

Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser  
1 5 10 15

<210> 164

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA DRB1\*0101  
15 mers

<400> 164  
Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

<210> 165  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA DRB1\*0101  
15 mers

<400> 165  
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr  
1 5 10 15

<210> 166  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA DRB1\*0301  
(DR17) 15 mers

<400> 166  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5 10 15

<210> 167  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA DRB1\*0301  
(DR17) 15 mers

<400> 167  
Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val  
1 5 10 15

<210> 168  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF 56  
peptide

<400> 168

Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 169

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF 62  
peptide

<400> 169

Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro  
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu  
20 25 30

Ser Cys Gly  
35

<210> 170

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF 67  
peptide

<400> 170

Cys Pro Arg Gly Val Asn Pro  
1 5

<210> 171

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF 70  
peptide

<400> 171

Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln  
1 5 10

<210> 172  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF 75  
peptide

<400> 172  
Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly  
1 5 10 15

Pro Cys

<210> 173  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 173  
Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 174  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-71  
peptide

<400> 174  
Met Thr Arg Val Leu Pro Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 175

<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF peptide

<400> 175  
Cys Arg Gly Val Asn Pro Val Val Ser  
1 5

<210> 176  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 176  
Arg Ala Leu Pro Pro Leu Pro Arg Tyr  
1 5